

Intrastate and interstate influences on the introduction and enactment of campus carry legislation,
2004–2016

David R. Johnson
University of Nevada, Reno

Liang Zhang
New York University

Abstract

Using a dataset that captures the introduction and enactment of “campus carry” bills between 2004 and 2016, we examine how the state policy adoption and diffusion framework explains the policy process related to allowing concealed weapons on the campuses of U.S. colleges and universities. Panel data logistic regression analyses reveal that active shooter incidents, the percentage of Republicans in state government, citizen political ideology, and policy diffusion influence the introduction of campus carry legislation. In addition, survival analysis shows that conservative citizen political ideology and anti-gun control interests are positively related to the enactment of campus carry laws. To our knowledge, this is the first empirical analysis of the policy process related to campus carry legislation. It expands the empirical scope of higher education policy research by considering a social problem that, like free speech and transgender “bathroom bills,” is only indirectly related to student achievement but nevertheless a high priority for some state legislators. Importantly, the results underscore the importance of examining how the influences of state characteristics and interstate dynamics vary across stages of the policy process.

Acknowledgements: The authors wish to thank Barret J. Taylor for comments on an earlier version of this manuscript.

Introduction

Laws that legalize the right to carry a concealed weapon in public have become increasingly salient to systems of higher education. During the 1980s and 1990s, when state legislatures first began passing laws permitting concealed firearms in public, most included a list of prohibited places such as schools (K12 and postsecondary), statehouses, and bars. Between 2004 and 2016, however, state legislators in 37 states have introduced “campus carry” legislation seeking to eliminate such exemptions, despite vast opposition from higher education administrators, law enforcement personnel, and students. As of 2018, campus carry laws have been enacted in 11 states (9 through state legislatures, 2 through state judiciaries), 16 states ban concealed weapons, and in 23 states the decision to ban or allow is left to university systems or individual campuses. In a growing body of research, scholars have investigated faculty and student attitudes towards such campus carry policies; however, they have not yet examined the factors that give rise to such policies. This is surprising, given how frequently such bills are considered, and strong public and academic interest in the topic.

In this article, we examine how factors such as political ideology, interest group activity, active shooter incidents, and interstate policy diffusion influenced the introduction and enactment of campus carry legislation in state legislatures between 2004 and 2016. Focusing on bills aimed at permitting concealed weapons on campus, we examine how the state policy adoption and diffusion framework (Hearn, McLendon, & Linthicum, 2017) informs our understanding of campus carry legislative activity. Our panel data logistic regression results show that active shooter incidents, the percentage of Republicans in state government, citizen political ideology, and policy diffusion influence the introduction of campus carry legislation,

while survival analysis reveals that conservative citizen political ideology and anti-gun control interests are positively related to the enactment of campus carry laws.

This study makes several notable contributions. First, we present what we believe is the first empirical analysis of the policy process related to campus carry legislation. Such legislation is critical, because it has implications for student safety and the authority of governing boards to regulate their institutions. It is thus perhaps no surprise that entities such as the American Association of State Colleges and Universities (AASCU) view the issue of guns on campus as among the most important state policy debates in recent years (cf. AASCU, 2018). Second, this study expands our understanding of the higher education policymaking arena to include social topics indirectly tied to student achievement. While issues not directly tied to educational achievement (such as free speech, campus carry, and transgender “bathroom bills”) have captured the attention of lawmakers, researchers have yet to investigate factors that have influenced the adoption of such legislation. This gap is significant, because policy processes related to legislation with relatively direct ties to student achievement may differ in important ways from social issues such as campus carry, which may be important, but have only indirect ties to student learning. Finally, our study underscores the importance of examining how the influences of state characteristics and interstate dynamics vary across stages of the policy process.

Background

Current prohibitions of concealed weapons at postsecondary institutions primarily emerged in the 1990s when state legislatures first began passing laws allowing concealed weapons in public. The exemption of college campuses in such legislation was seemingly

uncontroversial until active shooter incidents, most notably the 2007 Virginia Tech shooting, began to routinely occur and capture the attention of the public. Between 2000 and 2015, fourteen active shooter incidents—in which an individual actively killed or attempted to kill numerous people in a confined and populated space—occurred on college campuses across the United States (Blair & Schweit, 2014; Schweit, 2016).

An active shooter incident could lead policymakers to adopt new or stronger prohibitions against concealed weapons on campus, but the chief legislative emphasis in the past two decades has been to remove prohibitions established in the 1980s and 1990s. Prior to the Virginia Tech shooting, only two states had considered “right to carry” bills designed with the goal of allowing possession of concealed weapons on college campuses. Utah pioneered such legislation in 2004 (prompted by a legal fight about the scope of restrictions on the state’s 1996 concealed weapons ban), and Alabama considered but rejected a similar bill in 2006. After the April 2007 Virginia Tech shooting, however, other states actively began pursuing legislation that would allow concealed weapons on college campuses. In 2008, for example, legislators in 13 states were considering campus carry bills. In Figure 1, we show the number of years in which states considered legislation to allow concealed weapons on college campuses between 2004 (the first instance of such a bill) and the end of 2016. During this period, only 13 states had never considered legislation of this nature.¹

[Figure 1 about here]

Figure 2 shows states with campus carry laws enacted in state legislatures as of 2016. Mississippi and Wisconsin were the first two states to follow Utah in 2011, followed by Arkansas and Kansas in 2013, Idaho in 2014, Texas in 2015, and Tennessee in 2016.² Overall, by the end of 2016, state legislators in eight states had enacted bills that allowed concealed

weapons on college campuses. While our focus in this article is on legislative activities at the state level, state judiciaries in Oregon (2011) and Colorado (2012) ruled that concealed carry permit holders could not be prohibited from carrying guns on the campuses of colleges and universities. We also note that Georgia enacted a campus carry law subsequent to our analytic period, in 2017. Given the volume of “right to carry” bills, and that only a handful of states have prohibited concealed weapons on college campuses since 2004, in this article we focus on state legislative activities seeking to eliminate prohibitions to guns on college campuses.

Figures 1 and 2 offer a basic understanding of the processes by which campus carry legislation is introduced and enacted. Figure 1, for example, suggests that political ideology plays a role, since staunchly progressive states such as California, Oregon, and many New England states never considered such legislation during the study period. On the other hand, why did staunchly conservative states such as Arizona and Indiana fail to enact any bills into law, despite recurring introductions of campus carry bills over periods of 5 and 6 years, respectively? And while the vast spatial distribution of bill introduction suggests that legislators may be looking to their neighboring states for policy models, it is difficult to conclude that bill enactment is similarly influenced by adjacent states. While there is some clustering of enactment activity in the south, such activity is spatially isolated in other states such as Kansas and Wisconsin.

Theoretical Framework

Given suggestive patterns related to political ideology and diffusion implied in Figures 1 and 2, we turn to the state policy adoption and diffusion framework (Hearn et al., 2017)—which

conceptualizes postsecondary educational policy as the product of both intrastate and interstate influences—to theorize influences on the introduction and enactment of campus carry legislation. In this paper, we draw upon three core emphases in this framework that are most relevant to campus carry policy: policy contexts, politico-institutional contexts, and policy diffusion contexts.

Policy Context

The policy context of a state influences the adoption of postsecondary policies when state lawmakers embrace particular policy solutions in response to events, problems, or changing conditions of postsecondary education (Hearn et al., 2017). Existing research has focused on how problems such as rapid tuition rises can draw the attention of policymakers to new policy ideas or proposals (McLendon & Hearn, 2013). While policymakers are preoccupied with longstanding problems such as state funding, active shooter incidents on college campuses are highly visible and major crises that capture the attention of policymakers. Given the flurry of legislative activities after the Virginia Tech shooting, it is reasonable to expect an association between the introduction and adoption of campus carry laws and active shooter incidents at the state level. Even events that do not occur on college campuses could attract extensive media coverage and focus governmental attention on policy solutions that nevertheless implicate colleges and universities. Finally, it is worth noting that while active shooter incidents could lead lawmakers to *prohibit* concealed weapons on college campuses, states characterized by prohibitions typically did so when first allowing concealed weapons elsewhere—and not clearly as the result of active shooter incidents.

Politico-Institutional Context

We focus on five dimensions of state politico-institutional context of relevance to the adoption of state postsecondary policies: political ideology, partisanship, gubernatorial power, interest-group climate, and legislative professionalism.

Political ideology. Political ideology can be understood as a consistent set of attitudes towards politics held by state citizenries and legislators (Berry et al., 1998). The ideological propensity of a given state matters because it focuses the attention of lawmakers on particular types of policy solutions. While there are some areas of gun policy that draw bipartisan support, allowing concealed carry in more places is not one of them: 68 percent of Republicans support increased concealed carry in more places compared to only 26 percent of Democrats (Pew Research Center, 2018). Therefore, it is reasonable to expect legislators in states with ideologically conservative citizens are more likely to pursue legislation allowing concealed weapons on campus than in liberal leaning states.

Partisanship. Evidence of partisanship effects varies in higher education policy research (Hearn et al., 2017), but the idea of allowing concealed weapons in more places is characterized by a strong partisan divide (Pew Research Center, 2018). We expect that campus carry legislative activity will be associated with GOP influence and control of state legislatures. In principle, partisan control could be irrelevant to bill introduction, as some politicians symbolically introduce bills that—despite low chances of enactment—signal to their constituents that their values matter (Johnson et al., 2016). Given the partisan divide on gun policy, enactment in divided state legislature seems unlikely.

Gubernatorial power. A governor's influence over policy adoption depends in part on the formal institutional powers invested in the executive branch (Beyle, 2004). States vary in terms of gubernatorial tenure, appointment powers, and possession of the line-item veto. A growing

body of evidence suggests that strong governors are associated with the adoption of various types of postsecondary policies (cf. Hearn et al., 2013), suggesting an association between campus carry policy and gubernatorial power. On the other hand, one of the most formidable instruments of gubernatorial power—the line-item veto—is irrelevant to campus carry policy because these bills lack spending provisions. This is not to say that enactment does not entail costs for public universities. Extra costs generated by these policies include the costs of new security officials, metal detectors for campus sites where guns are not allowed (e.g., stadiums), gun storage facilities, and other various needs.

Interest group climate. Interest groups influence outcomes in many policy arenas, including higher education policy (cf., Ness, Tandberg, & McLendon, 2015). The key interest group in favor of campus carry legislation is the National Rifle Association (NRA). The NRA has approximately 5 million members, numerous affiliated organizations such as the NRA Political Victory Fund, and is actively involved in state-level legislation and financial support for pro-gun politicians (Reich & Barth, 2017). Gun rights groups both financially support politicians and mobilize members in support of campus carry legislation. The NRA Institute for Legislative Action, for example, regularly highlights campus carry bills and encourages members to take action. For example, when the state of Texas was considering the 2015 Senate Bill 11 to allow concealed handguns on the campuses of its colleges and universities, the NRA urged members to call their legislators immediately to generate support for the bill, in line with the organization's broader pattern of behavior in response to similar bills.³

By comparison, pro-gun control interest groups—exemplified by organizations such as Americans for Responsible Solutions and Everytown for Gun Safety—issue position statements on campus carry but are vastly outspent by gun rights organizations in state-level elections

(Bauer, 2010). Accordingly, it is reasonable to expect an association between financial contributions from gun rights groups such as the NRA to candidates for state offices and campus carry legislation. Given their limited influence on lawmakers and resources relative to the NRA and other anti-gun control groups, spending by pro-gun control groups could weaken, but not eliminate the effect of campus carry advocates.

Hearn et al. (2017) include statewide governing boards as part of the interest group climate in a state, given that boards can organize and express interests in state higher education policy. As McLendon, Hearn, and Deaton (2006) explain, consolidated governing boards tend to institutionalize the preferences of faculty and administrators. Given that students and faculty are overwhelmingly opposed to allowing concealed weapons on college campuses (Thompson et al., 2013a, 2013b), one would expect that campus carry legislation would be less likely in states with consolidated governing boards.

Legislative professionalism. The institutional capacity of a state legislature depends is shaped by its level of professionalization. Staff sizes, salaries, and meeting frequency vary widely from state to state. Professionalized legislatures have greater resources, meaning they are typically able to introduce and pass more bills (Hearn et al., 2017). However, as Squire and Hamm (2005) note, the influence of legislative professionalism may depend on the policy at-hand. Given that campus carry policies lack spending provisions and typically entail relatively short bills that modify short sections of existing state firearm codes, we do not anticipate a relationship between legislative professionalism and campus carry policy outcomes.

State policy diffusion context

The state policy diffusion context emphasizes how lawmakers emulate the policymaking behavior of their peers in neighboring states. One reason that officials might introduce campus

carry legislation in a given state is decision efficiency (cf. Lacy & Tandberg, 2014). A successful bill in one state, for example, may lead a neighboring to subsequently pursue a similar bill based on the belief that campus carry is a viable way to either address campus violence or deregulate firearms. Policy emulation may also be the product of normative pressure (cf. Gandara et al., 2017), in which policymakers seek to legitimize their states as embracing “best practices.” Gandara et al. (2017), for example, demonstrate how intermediary organizations normalize policy solutions by appealing to “common sense strategies.” In the context of campus carry legislation, the National Rifle Association routinely emphasizes the need for “a good guy with a gun” in the wake of active shooter incidents. In this respect, policy actors may regard campus carry legislation in other states as part of a movement to institutionalize common-sense solutions to the problem of campus violence.⁴ Whether motivated by decision efficiency or normative pressure, the probability of campus carry legislative activity should increase as the proportion of neighboring states introducing such bills increases.

Theoretically, interstate diffusion could provoke a form of policy avoidance (Li, 2017) in which a state pursues policies in direct opposition to those of neighboring states. For example, legislators who supported California’s 2015 Senate Bill 707—which eliminated an exemption in the Gun-Free School Act of 1995 that allowed certain individuals to carry concealed weapons on college campuses—may have been influenced by the 2011 judicial decision in Oregon allowing *anyone* to carry a concealed weapon on campus. Empirically, however, of the 16 states that universally prohibit concealed weapons on campus, in nearly all cases the origins of prohibitions emerged in concealed weapon legislation that occurred during the 1990s.

Finally, we anticipate that the influence of the policy, politico-institutional, and diffusion frameworks will vary across the policy process. Higher education policy researchers rarely

simultaneously test more than one stage of the policy process (e.g., the introduction and enactment of policy) in quantitative studies. Yet, the idea that scholars should examine influences throughout the policy process dates back at least to Schumaker (1975), who conceived of the policy process as entailing five stages: *access responsiveness* (listening to citizens' demands); *agenda responsiveness* (introducing legislation); *policy responsiveness* (adopting legislation); *output responsiveness* (implementing policy) and *impact responsiveness* (gathering evidence that a policy addresses citizens' initial demands). Accordingly, it is reasonable to expect that mechanisms associated with different contexts of the state policy adoption and diffusion framework will vary in their influence on bill introductions and the enactment of policy.

Data and Methods

The goal of this study was to analyze intrastate and interstate characteristics associated with state legislative activity aimed at allowing concealed weapons to be carried on college and university campuses in the United States. To examine state legislative behavior across states and over time, we developed a longitudinal dataset that captures key concepts relevant to the conditions hypothesized to influence legislative activity between 2004 and 2016 related to the right to carry on campus.

Variables and Measures

Our analysis excludes Alaska, Hawaii, and Nebraska. We dropped Alaska and Hawaii from our analysis because they are not contiguous with other states, precluding examination of interstate diffusion dynamics. Nebraska is commonly excluded from analysis due to its unique unicameral legislature, which precludes meaningful analysis of partisan control of state

governments, a central theme in our theoretical framework. Consequently, our analysis is based on a 47-state dataset.

We derived data on the 47 states from a variety of secondary sources. Table 1 presents the main independent variables used in this study. The two dependent variables are dichotomous measures of legislative activity between 2004 and 2016. We assigned a value of 1 to *introduced legislation* when at least one campus carry bill was introduced in a state legislature within a given year, and 0 otherwise. Likewise, we assigned a value of 1 to *enacted legislation* when a campus carry law was enacted in a state legislature within a given year, and 0 otherwise. The AASCU, which actively follows higher education policy, provides the most comprehensive state-level information about such legislative activities. The AASCU began tracking this issue in 2007, when gun-related legislative activity increased in state houses after the Virginia Tech shooting. To ensure the reliability of these data, and to capture activity from 2004 to 2006, we collected supplementary data from the National Council on State Legislatures (NCSL), the Education Commission of the States, state legislative archives, and state-by-state searches for media coverage of legislation using Lexis Nexis, Google Archives, and the NRA Institute for Legislative Action.

To capture the conceptual emphasis on the policy context, and specifically its emphasis that major crises capture the attention of policymakers, we include the independent variable *active shooter incident*. This variable measures the total number of active shooter incidents for each state-year based on data from the Federal Bureau of Investigation's study of activity shooter incidents between 2000 and 2015 (Blair & Schweit, 2014; Schweit, 2016).

We include several variables to measure the five dimensions of a state's politico-institutional context emphasized above. To capture political ideology, we include the variable

citizen ideology. This indicator measures the average ideological position of each state's electorate on a liberal–conservative continuum based on the distribution of votes in congressional races and interest group ratings (Berry et al., 1998). Two variables capture partisanship, the first, *divided government* draws on data from the NCSL and Klarner (2013) to characterize overall control of legislative bodies and the governor's office. The second, *proportion of Republican legislature*, draws on NCSL data and reflects the average percent of state legislatures in both houses who are republican. The governor power dimension is indicated by the variable gubernatorial power, which is a power ratio calculated as the sum of a governor's constitutionally-granted powers (between 0 and 4)—budgetary, item veto, veto override, and organization—divided by the maximum power index available (Burns, 2018). To capture interest group climate, we include three variables. The first two represent total contributions to state-level campaigns from pro-gun control and anti-gun control groups. We collected these data from the National Institute on Money in State Politics (NIMSP), a nonprofit organization that tracks campaign finance data through the use of state-mandated financial disclosures. *Anti-gun control interests* captures total donations to candidates for state-level offices from all anti-gun control interest groups for each state-year. Similarly, *pro-gun control interests* captures donations from groups seeking stronger regulations in support of gun control. The variable *consolidated governing board* indicates the existence of a consolidated governing board for a state's higher education system. Following Tandberg (2010), we use a dummy variable based on data derived from McGuinness (2012, 2016) and assigned a value of 1 to states with consolidated governing boards, and 0 to states with other structures. Finally, to capture the legislative professionalism dimension of a state's politico-institutional context, we collected data on professionalization level from the NCSL, and categorized each state's legislature as *full-time*, *hybrid*, or *part-time*.

To capture the diffusion of campus carry policies, we included the variable *adjacent bill introduced*, which reflects the proportion of a state's contiguous neighbors that had introduced campus carry policies in preceding years. We used a separate variable, *adjacent bill enacted*, to examine whether bill enactment in neighboring states in previous years influenced bill enactment in a focal state. Because bill enactment is a relatively rare phenomenon, this measure captures whether *any* bills had been enacted in neighboring states, rather than the proportion of neighboring states that had enacted campus carry bills. Our use of the contiguous diffusion approach follows precedent (Hearn et al., 2017) and we note that supplemental analysis found no support for the regional diffusion model (Walker, 1969).

Methods

Although both the *introduced legislation* and *enacted legislation* variables are assumed to be influenced by a host of time variant and invariant factors, they are different in terms of occurrence over time. For *enacted legislation*, it can only occur at most once, while for *introduced legislation*, a state legislature can introduce campus carry bills each year as long as no bills have been enacted. In fact, Figure 1 indicates that many states introduced campus carry bills multiple times during the period that we have data. These differences necessitate two estimating strategies. For *introduced legislation*, panel data logistic regression models provide an ideal strategy to control for differences both across states and over time. We also considered two other possibilities for *introduced legislation* in Appendix A. First, we consider the possibility that the occurrence of legislation introduction in a given year could be influenced by prior introductions. Second, we treated multiple bill introductions as multiple failures over time and subsequently used conditional time gap cox proportional model for *introduced legislation*. Survival analysis is used for *enacted legislation* because it accommodates both time and censoring nature of this

outcome variable. In particular, we use Cox proportional hazard model, which assumes that the hazard ratio does not depend on elapsed time at risk, to take care of the left truncation in our data. We briefly discuss both methods in this section.

Panel data models consider both variations across units at any particular point in time and changes for each unit over time. The use of panel data models is particularly useful for the study of education policy due to its ability to control for cross-unit differences and its attention to within-unit variations (Zhang, 2010). Within the family of panel data models, two models—fixed effects and random effects—are used frequently in empirical studies. These two models share a similar mathematical representation:

$$\ln \left(\frac{P(Y_{it} = 1 | x_{it}, u_i)}{P(Y_{it} = 0 | x_{it}, u_i)} \right) = \beta_0 + \sum_{k=1}^K \beta_k x_{kit} + u_i$$

where the left side of the equation represents the log odds of an event (e.g., whether a bill is introduced or not); β_0 is the intercept; x_{kit} represents a series of covariates where β_k is the k^{th} regression coefficient; and u_i represents state-specific terms. Depending on how u_i is estimated, the equation yields fixed effects or random effects logistic regression models. In the following data analysis, we estimated both fixed and random effects logistic regression models by using a set of states with variations in the dependent variable over time. We then used Hausman test to assess these two models and estimated the preferred random effects model using the full sample.

We used event history analysis (or survival analysis) to model the enactment of campus carry bills in states over time, focusing primarily on the amount of time elapsed before the occurrence of a specific event (e.g., bill enactment). This amount of time depends on the hazard of bill enactment faced by each state during each period, which in turn depends on two parts: the underlying baseline hazard function and influencing covariates. Cox (1972) devised a flexible form of hazard rate:

$$\lambda_i(t) = \lambda_0(t)e^{\sum_{k=1}^K \beta_k x_{kit}}$$

Taking the natural logarithm of both sides of the Cox proportional model produces an equation that relates the relative hazard to a linear function of covariates:

$$\ln\left(\frac{\lambda_i(t)}{\lambda_0(t)}\right) = \sum_{k=1}^K \beta_k x_{kit}$$

In other words, the effect of covariates estimated by the Cox proportional hazard model represents the change in the expected log of the hazard ratio relative to a one-unit change in a covariate after holding all other covariates constant. An advantage of using the Cox proportional hazard model is that it does not assume any particular form of the underlying baseline hazard function. The model has been widely used in the higher education literature to understand how state characteristics affect the hazard rate of policy adoption at the state level. For example, Therneau and Grambsch (2013) and Doyle (2006) used this model to examine the adoption of state merit-based financial aid programs over time.

Results

Introduced Legislation

Starting with 611 observations from 47 states (excluding Alaska, Hawaii, and Nebraska) over 13 years (i.e., 2004–2016), we eliminated 31 state-year observations in which campus carry laws were already in place because no such bills would be introduced (e.g., Utah since 2004, Idaho since 2014, etc.), and 34 state-year observations in which states did not hold annual sessions. For example, Montana, Nevada, North Dakota, and Texas hold legislative sessions every other year, as did Arkansas and Oregon prior to 2008 and 2010, respectively. These restrictions yielded 546 state-year observations which formed our analytical sample for this part of the analysis.

We began our analysis by conducting a Hausman test between fixed and random effects logistic regression models based on a set of states that have introduced campus carry bills during the period in this study. Results are reported in the first two columns in Table 2. This test showed the random effects logistic regression model is preferred. We then re-estimated our preferred model using the expanded sample of 546 state-year observations, including those states that had never or consistently introduced campus carry bills during the period. Results are reported in the last column in Table 2. Results indicate that active shooter incidents in a state during the previous year, as an important policy context, are associated with the introduction of campus carry bills during the focal year. Each additional active shooter incident during the previous year increases the odds ratio of bill introduction in the focal year by 46%. This result suggests that the increased frequency of active shooter incidents in the United States (Blair & Schweit, 2014; Schweit, 2016) might have catalyzed a movement to allow weapons on college campuses in recent years.

Variables pertaining to state politico-institutional context yield mixed results. The political ideology of a state, as measured by citizen ideology, is a strong predictor of introduced legislation. A 1-point increase in the citizen ideology score is associated with an odds ratio that is more than twice as large. For example, the odds ratio of introducing campus carry bills in Virginia (citizen ideology = 1.87) is about twice as large as that in New York (citizen ideology = 0.85). The two variables capturing partisanship of state government political climate indicate significant GOP influence on the introduction of campus carry bills, while a divided state government does not predict the introduction of campus carry bills. A 1% increase in the proportion of Republicans in a state government is associated with a 2.7% increase in the odds ratio of introducing campus carry bills in the state. In fact, among the 88 state-year observations

of introduced legislation between 2004 and 2016, only 7 bills were introduced under Democrat controlled governments, whereas 34 were introduced under divided governments, and 47 were introduced under Republican controlled governments.

The other three dimensions of state politico-institutional context do not seem to affect the introduction of campus carry bills. For example, regression results do not reveal a strong relationship between gubernatorial power and the introduction of campus carry bills. In addition, neither anti-gun control nor pro-gun control election contributions significantly affect the introduction of campus carry bills. Tests based on contributions in the previous year and the average over a 2-year period yield qualitatively similar results. These insignificant relationships could be due to a couple of possible reasons. First, although these measures capture the activities of pro- and anti-gun control interest groups, they are not necessarily related to specific campus carry bills in a particular year. For example, although the main purpose of the direct contributions from anti-gun control groups is to elect politicians who support a pro-gun agenda, it is not clear whether and when those elected politicians will introduce and/or enact campus carry bills. Second, campaign contributions from gun-related interests could be endogenous to campus carry legislation. For example, pro-gun control contributions could increase after campus carry bills are introduced. The remaining three variables capturing differences higher education governance structure and legislative professionalism all yield statistically insignificant results.

Finally, the policy diffusion hypothesis is strongly supported by our results. As the proportion of neighboring states that have introduced campus carry bills increases, the probability of introducing a similar bill increases for the focal state. Regression results indicate that the bill introduction in all neighboring states is related to a 2.6-fold increase in the odds ratio of bill introduction in the focal state. It is noteworthy that we also tried the second diffusion

variable, *adjacent bill enacted*, in the regression model; however, this variable is not statistically significant and thus is excluded from our preferred model specification.

Enacted Legislation

While results in Table 2 suggest that the introduction of campus carry bills can be predicted by an array of state-level variables, less evidence exists to suggest that the enactment of campus carry laws is related to the variables examined in this study. Table 3 reports hazard ratios from the proportional hazards model. A hazard ratio greater than 1 indicates a positive relationship between a variable and the hazard (risk) of enacting a campus carry law in a state. Results in Table 3 suggest that most variables strongly associated with the introduction of campus carry bills fail to predict the enactment of campus carry laws, except citizen ideology and anti-gun control interests. A 1-point increase in citizen ideology score is associated with a 11-fold increase in the odds of campus carry law enactment. This large estimate is due to the measurement of citizen ideology score, which has a standard deviation of 0.56. In other words, a 1-point increase in citizen ideology is equivalent to a change from a politically moderate state to one of the most conservative states. The other statistically significant variable is anti-gun control interests: A \$10,000 increase in anti-gun control interests is associated with a 66% increase in the odds of enacting campus carry laws.

Discussion and Conclusion

This article examined how various intrastate characteristics and interstate dynamics influence the introduction and enactment of campus carry legislation in state legislatures between 2004 and 2016. We found that bill introduction is influenced by a variety of state characteristics, including active shooting incidents in the previous year, the percentage of Republican

legislatures in state government, conservative citizen ideology, and whether neighboring states have introduced campus carry bills. Our event history analysis regarding bill enactment further suggests that conservative citizen ideology and anti-gun control interests are positively related to the enactment of campus carry laws.

These findings are important for a number of reasons. First, the results make a significant empirical contribution to the study of campus carry legislation. Scholars have conducted survey research on student and faculty attitudes regarding the presence of concealed weapons on campus (Thompson et al., 2013a, 2013b), but few have investigated the policy process. This research provides the first systematic analysis of the introduction and enactment of campus carry laws and factors influencing different stages of the campus carry policy process. The study's findings provide a starting point for subsequent analyses, such as case studies of particular states. In the future, researchers could advance this agenda by examining factors that influence the adoption of two other categories of campus carry bills: those that prohibit concealed weapons and those that delegate authority to systems or institutions. Qualitative case studies of bill enactment of any type of campus carry legislation would also be valuable in capturing theoretical mechanisms not easily addressed in quantitative research, particularly those related to enactment.

The results also build on broader conversations about the merits of the state policy adoption and diffusion framework in higher education policy (Hearn et al., 2017). With respect to the state policy context, we found a positive relationship between the probability of introducing campus carry legislation and the total number of active shooter incidents in a state during the previous year. The fact that campus carry bills only emerged in vast numbers after the Virginia Tech shooting could imply that this legislation is a rational response to campus security concerns. Yet, our measure of active shooter incidents is not limited to those occurring

specifically at college and university campuses, or for that matter, educational institutions. Since educational institutions are one of the few spheres of American society that have been traditionally off-limits to guns, it could be that legislators are not particularly focused on campus safety concerns, but on promoting open carry rights.

The state politico-institutional context of campus carry legislation is the only context with a consistent influence across both the introduction and enactment stages. The most consistent and powerful political influence is conservative ideology among citizens, which dramatically increases the probability of both introduction and enactment. Other dimensions of political influence include the positive influence of Republican power in state legislatures on introduction and lobbying influence of anti-gun control groups on enactment. Notably, the citizen ideology variable and the proportion of Republican legislatures are conflated with each other with a correlation of 0.43. In the bill introduction model, both variables would be positive and statistically significant when they were estimated in separate models. In the enactment model, only the citizen ideology variable but not the proportion of Republican legislatures would be statistically significant in separate models. One possibility is that our use of the Berry et al. (1998) measure of citizen ideology is capturing roll call votes of elected Democrats who are conservative on some issues, such as gun control. These results suggest that the citizen ideology in a state is a more fundamental driving force for campus carry legislation.

The policy diffusion context also has a powerful influence on the introduction of campus carry legislation, suggesting that legislators are monitoring the activities of their conservative colleagues in adjacent states, either for cues on substantive security policies or for political strategies related to broadening gun rights. Studies of postsecondary policy that include both neighbor and fixed region models of diffusion are rare (Doyle, 2006; Hearn, Lacy, & Warshaw,

2014; Mokher & McLendon, 2009; Hearn et al., 2013) and typically find no influence of either approach on adoption. Yet, we found that only the neighbor model influenced introduction. In contrast to enacted legislation, which may have cross-region visibility, bills that are introduced may die in committee or receive debate in only one chamber, for example, and thus have lower visibility. Accordingly, a lawmaker in Indiana may be more likely to know about a bill introduced in Ohio relative to a lawmaker from a more distant Midwestern state such as North Dakota. If pressure to conform with popular practice drives diffusion, popularity may only be evident nearby. Or, if lawmakers are looking for “shortcuts,” it might be too costly to look beyond one’s neighbors, especially because the potential success (political or practical) of a bill that has only been introduced is unclear.

Perhaps most importantly, our findings demonstrate the value of analyzing higher education policymaking at different stages of the legislative process. The factors that influence campus carry legislation have different levels of influence at different stages of the policy process. The policy and diffusion contexts were important influences at the bill introduction stage, but during bill enactment, these contexts were eclipsed by the politico-institutional context—which had a consistent influence across the legislative process. Our data only allow us to speculate about why, but it could be that the increasing consequentiality of action in later stages of the policy process is behind the uneven influence of some measures (cf. Soule & King, 2006). Anti-gun control interest groups have no apparent influence at the policy introduction stage, for example, when the stakes are low. At the enactment stage, when a final decision must be made on a proposal—and legislators are perhaps more aware of the implications of their roll call votes for their political success—electoral contributions from anti-gun control groups do shape policy enactment. Overall, these findings and similar approaches in other policy domains

(Mintrom, 1997; Soule & King, 2006) suggest that higher education policy analyses that focus exclusively on adoption may overlook variation in how actors influence policy.

Beyond simply providing support for the state policy adoption and diffusion framework, these results build on it by demonstrating its applicability beyond the empirical contexts in which it has predominately been applied. In the most recent synthesis of work employing this conceptual framework, the studies reviewed predominately focus on issues such as state funding, state governance arrangements, and areas of college student financing. We expand the empirical scopes of this framework and higher education policy research more broadly by demonstrating its utility in explaining concerns that are at best only indirectly tied to student achievement. Since students and faculty overwhelmingly oppose campus carry legislation, one could plausibly argue that the only reason this policy is on the agenda of higher education administrators is because of the political maneuvering of state legislators. Due to the persistent introduction of such bills in the U.S. and the implications of possible enactment for student safety and institutional governance, higher education administrators have no choice but to anticipate impacts of such legislation while managing critical priorities related to improving institutional outcomes, such as retention.

Figure 1: Number of Years in which States Introduced Campus Carry Legislation (2004–2016)

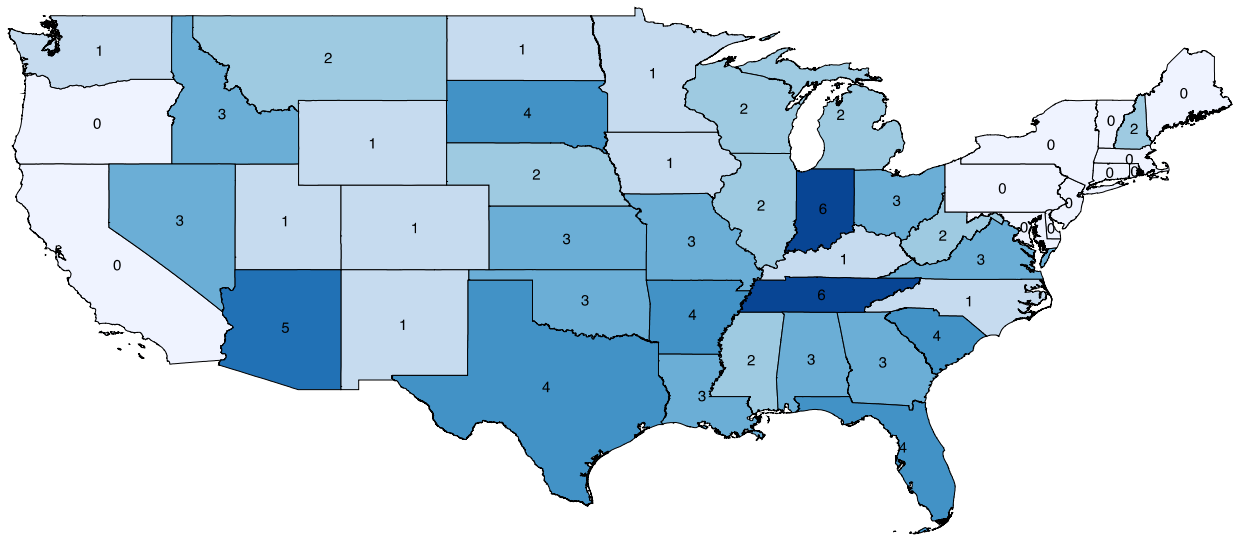


Figure 2: States with Campus Carry Laws as of 2016 and Year of Enactment

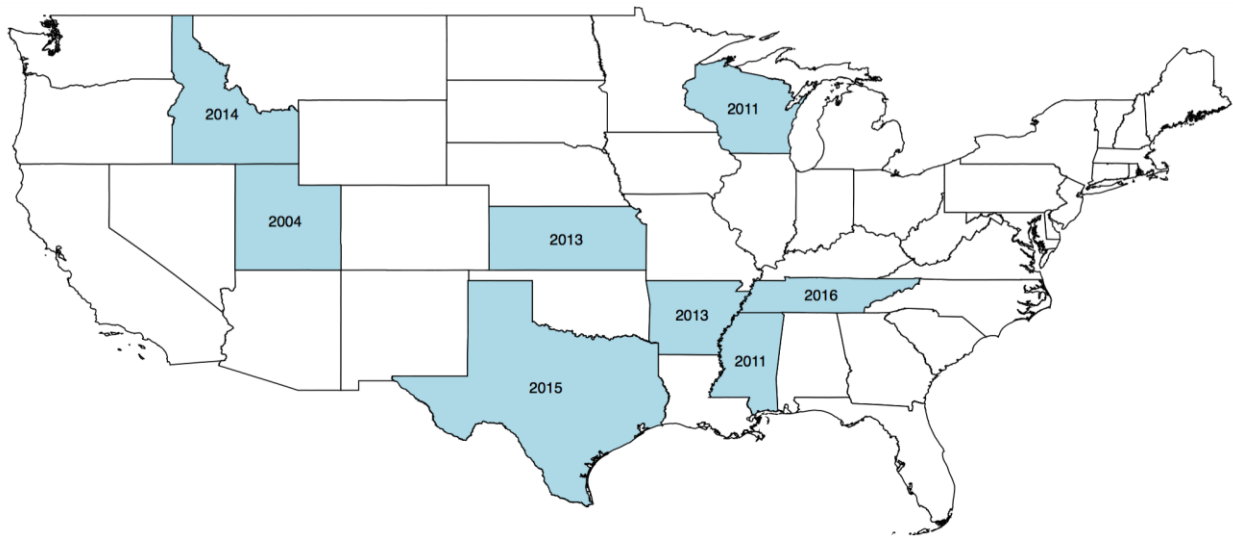


Table 1: Definitions and Descriptive Statistics of Main Variables in 2016 (47 States)

Variable	Mean	SD	Min	Max
Active shooter incident in previous year	0.426	0.617	0	2
Citizen ideology	1.809	0.560	0.687	3.14
Divided government	0.170	0.380	0	1
Proportion of Republicans	57.100	16.384	14.159	85.556
Gubernatorial power	0.787	0.160	0.5	1
Anti-gun control interests (\$10,000)	19.553	97.797	0	662.564
Pro-gun control interests (\$10,000)	45.283	209.775	0	1263.206
Consolidated governing board	0.468	0.504	0	1
Professional: full	0.191	0.398	0	1
Professional: hybrid	0.468	0.504	0	1
Professional: part-time	0.340	0.479	0	1
Adjacent bill introduced	0.744	0.355	0	1
Adjacent bill enacted	0.553	0.503	0	1

Table 2: Odds Ratio of Introducing Campus Carry Legislation, Fixed and Random Effects Logit Models (z-Statistics in Parentheses)

Variable	Fixed Effects Logit Model	Random Effects Logit Model	Random Effects Logit Model
Active shooter incident in previous year	1.527 ⁺ (1.879)	1.592* (2.271)	1.461 ⁺ (1.915)
Citizen ideology		1.643 (1.383)	2.361** (2.798)
Divided government	1.697 (1.443)	1.181 (0.597)	1.297 (0.946)
Proportion of Republicans	1.000 (0.015)	1.012 (1.050)	1.027* (2.535)
Gubernatorial power	16.043 (1.448)	0.972 (-0.037)	0.820 (-0.278)
Anti-gun control interests (\$10,000)	0.874 (-1.212)	0.893 (-1.188)	0.896 (-1.153)
Pro-gun control interests (\$10,000)	0.990 (-0.312)	0.989 (-0.351)	0.986 (-0.353)
Consolidated governing board		0.720 (-1.002)	0.772 (-0.776)
Professional: hybrid		1.047 (0.107)	1.268 (0.573)
Professional: part-time		1.568 (0.978)	1.979 (1.434)
Adjacent bill introduced	2.855* (2.509)	2.125* (2.244)	2.562** (2.789)
Observations	393	393	546
Degrees of freedom	7	11	11
Log likelihood	-138.8	-195.6	-209.4
LR Chi-square	19.75	20.11	48.13

Note: ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Cox Proportional Hazard Model for Enacting Campus-Carry Legislation for All State-Years (z-Statistics in Parentheses)

Variable	Hazard ratio
Active shooter incident in previous year	1.005 (0.010)
Citizen ideology	11.291* (2.173)
Divided government	2.492 (0.687)
Proportion of Republicans	1.031 (0.872)
Gubernatorial power	0.398 (-0.408)
Anti-gun control interests (\$10,000)	1.659+ (1.759)
Pro-gun control interests (\$10,000)	0.095 (-1.192)
Consolidated governing board	2.644 (0.731)
Professional: hybrid	0.206 (-0.925)
Professional: part-time	1.100 (0.066)
Adjacent bill enacted	1.483 (0.385)
Observations	546
Degree of freedom	11
Log likelihood	-21.2
LR Chi-square	17.9

Note: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Online Appendix A

To examine whether unsuccessful prior introductions affect bill introduction during the focal year, we run a separate model that included the number of prior introductions. Results in Table A suggest that the odds of bill introduction during the focal year are positively associated with the number of prior introductions, which is expected because the same variables that influence prior bill introductions also influence its introduction during the focal year. Consequently, adding prior bill introductions would attenuate the association between these variables—especially time invariant variables—with bill introduction during the focal year. Because the focus of this study is on how policy, politico-institutional, and diffusion contexts affect campus carry legislation, we have preferred models without prior bill introductions. Interestingly, because active shooter incidents in a state in the preceding year do not affect prior bill introductions, adding prior introductions to the model does not affect the impact of active shooter incidents on bill introduction during the focal year.

While we used random effects logistic regression in the main text, we also applied multiple failure-time survival analysis for *introduced legislation* by treating multiple bill introductions as multiple failures over time. Table B reports results based on conditional gap time cox proportional model for *introduced legislation*. (See Lacy & Tandberg [2014] for an example of applying this model to estimate the adoption of finance innovations over time). Results in Table B are qualitatively similar to random effects logistic regression models in Table 2, except for the positive but insignificant results for the diffusion variable. However, it is not clear to us whether setting time from the previous failure is appropriate for *introduced legislation* due to the same type of unordered events over time. Using time from the beginning resulted in quite different results than in Table B. After considering different model options, we decided to use the general random effects logistic regression as our preferred model.

Table A: Odds Ratio of Introducing Campus Carry Legislation, Fixed and Random Effects Logit Models (z-Statistics in Parentheses)

Variable	Fixed Effects Logit Model	Random Effects Logit Model	Random Effects Logit Model
Active shooter incident in previous year	1.448 (1.478)	1.753* (2.517)	1.669* (2.337)
Citizen ideology		0.862 (-0.373)	1.188 (0.506)
Divided government	2.828* (2.293)	2.375* (2.508)	2.640** (2.830)
Proportion of Republicans	0.945+ (-1.918)	0.984 (-1.106)	1.003 (0.239)
Gubernatorial power	1.619 (0.198)	2.873 (1.166)	2.476 (1.104)
Anti-gun control interests (\$10,000)	0.818 (-1.408)	0.805+ (-1.697)	0.813 (-1.634)
Pro-gun control interests (\$10,000)	0.959 (-0.365)	0.972 (-0.283)	0.965 (-0.320)
Consolidated governing board		1.083 (0.192)	1.274 (0.560)
Professional: hybrid		0.542 (-1.271)	0.662 (-0.903)
Professional: part-time		1.013 (0.025)	1.255 (0.411)
Adjacent bill introduced	0.077*** (-3.670)	0.167*** (-3.381)	0.229** (-2.836)
Number of prior introductions	6.871*** (6.457)	4.294*** (7.507)	4.341*** (7.529)
Observations	393	393	546
Degrees of freedom	8	12	12
Log likelihood	-105.2	-156.0	-169.7
LR Chi-square	86.95	67.11	89.68

Note: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B: Cox Proportional Hazard Model with Conditional Gap Time for Introducing Campus-Carry Legislation for All State-Years (z-Statistics in Parentheses)

	Hazard Ratio
Active shooter incident in previous year	1.255 ⁺ (1.786)
Citizen ideology	2.490 ^{**} (2.940)
Divided government	1.403 (1.444)
Proportion of Republicans	1.026 [*] (2.145)
Gubernatorial power	0.643 (-0.804)
Anti-gun control interests (\$10,000)	0.977 (-1.119)
Pro-gun control interests (\$10,000)	0.991 (-1.071)
Consolidated governing board	0.864 (-0.512)
Professional: hybrid	1.131 (0.345)
Professional: part-time	1.514 (1.211)
Adjacent bill introduced	1.643 (0.936)
Observations	546
Degree of freedom	11
Log pseudo likelihood	-294.8
LR Chi-square	58.3

Note: ⁺ $p < 0.10$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$

¹ Hawaii has never considered such legislation but is not represented in Figure 1.

² In Tennessee, faculty may carry concealed weapons but the law does not apply to students or the general public. Note also that Arkansas passed Act 562, which expanded the 2013 law that applied only to faculty to include individuals who have passed a training course to concealed carry.

³ “Texas: Impending Deadline Looms for Open Carry Legislation, Call your Legislators Now.” Downloaded February 5, 2018 from: <https://www.nraila.org/articles/20150528/texas-impending-deadline-looms-for-open-carry-legislation-call-your-legislators-now>

⁴ Diffusion can also be the product of competition between states and coercion (Hearn et al., 2017), but these factors seem less likely relative to other motivations for campus carry. For example, it is not clear that enactment of campus carry legislation has had substantial implications for enrollment or faculty hiring; nor is it clear that actors in the organizational field of higher education can punish or reward postsecondary institutions based on their campus carry policy position.